

Applicant: Nadja EISENMENGER et al.
Docket No. R.305061-1
Preliminary Amdt.

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-17. (Canceled)

18. (New) A fuel injector for injecting fuel into a combustion chamber (23) of an internal combustion engine the injector comprising

a pressure booster (3) having a booster piston (4) which separates a work chamber (5), permanently subjected to fuel via a pressure source (1, 2), from a pressure-relievable differential pressure chamber (6), and

a servo valve (24) actuatable to effect a change in pressure in the differential pressure chamber (6), the servo valve opening or closing a hydraulic connection (21, 39, 42) of the differential pressure chamber (6) to a low-pressure-side return (28),

the servo valve (24) having a servo valve piston (32, 65), which is guided between a control chamber (36) and a first hydraulic chamber (38) and on which an operative hydraulic face (44), constantly urged in the opening direction of the servo valve piston (32) by a system pressure, and a first sealing seat (40), which seals off the servo valve (24) from a low-pressure-side return (28), are embodied.

Applicant: Nadja EISENMENGER et al.
Docket No. R.305061-1
Preliminary Amdt.

19. **(New)** The fuel injector according to claim 18, wherein the control chamber (36) and the first hydraulic chamber (38) are subjected to system pressure via a supply line (29) that originates at the pressure source (1).

20. **(New)** The fuel injector according to claim 19, wherein the control chamber (36) of the servo valve (24) is subjected to system pressure, via a through conduit (33) extending through the servo valve piston (32), from the first hydraulic chamber (38) into which the supply line (29) discharges.

21. **(New)** The fuel injector according to claim 20, wherein the through conduit (33) of the servo valve piston (32) includes an integrated throttle restriction (34).

22. **(New)** The fuel injector according to claim 19, wherein the control chamber (36), via a second supply line portion (57) branching off from the supply line (29), and the first hydraulic chamber (38), via a supply line portion (58) branching off from the supply line (29), are subjected in parallel to system pressure.

23. **(New)** The fuel injector according to claim 22, wherein the first supply line portion (57) comprises a first throttle restriction (34).

24. **(New)** The fuel injector according to claim 18, wherein the servo valve piston (32) comprises a first sealing seat (40), which opens or closes the low-pressure-side return (28),

and a control edge (41), which separates the first hydraulic chamber (38) from a second hydraulic chamber (39).

25. **(New)** The fuel injector according to claim 24, wherein the first sealing seat (40) is embodied as a flat seat or a conical seat and closes an outlet control chamber (42) located on the low-pressure side.

26. **(New)** The fuel injector according to claim 24, wherein the control edge (41) is embodied as a slide sealing edge (43).

27. **(New)** The fuel injector according to claim 18, wherein the differential pressure chamber (6), which can be pressure-relieved into the low-pressure-side return (28) via the servo valve (24), is hydraulically coupled with a control chamber (12) for an injection valve member (14), which control chamber receives a damping piston (51), and the damping piston (51) includes a throttle restriction (52) which defines the opening speed of the injection valve member, and the control chamber (12) for actuating the injection valve member (14) communicates via a filling line (56) with either the control chamber (12) or one of the hydraulic chambers (5, 6, 9) of the pressure booster (3).

28. **(New)** The fuel injector according to claim 18, wherein the actuation of the servo valve (24) is effected via a switching valve (30) that connects the control chamber (36) to a return (31).

Applicant: Nadja EISENMENGER et al.
Docket No. R.305061-1
Preliminary Amdt.

29. **(New)** The fuel injector according to claim 18, wherein the servo valve piston (32) comprises a reduced-diameter servo valve piston portion (65), and a prestressed control sleeve (67) received on the reduced diameter servo piston portion.
30. **(New)** The fuel injector according to claim 29, wherein the control sleeve (67) together with the servo valve piston portion (65) forms a slide control edge (69).
31. **(New)** The fuel injector according to claim 30, wherein the slide control edge (69) controls the communication with the low-pressure-side return (28).
32. **(New)** The fuel injector according to claim 29, wherein the servo valve piston portion (65) of the servo valve piston (32) has first recesses (63), each of which includes a slide sealing edge (43) which cooperates with a control edge (41) embodied toward the servo valve housing.
33. **(New)** The fuel injector according to claim 29, further comprising a spring element (68) acting on the control sleeve (67), the spring element (68) being braced against a housing part (26) of the servo valve housing (25).
34. **(New)** The fuel injector according to claim 29, wherein the servo valve piston portion (65) of the servo valve piston (32) comprises first recesses (63) between the first hydraulic

Applicant: Nadja EISENMENGER et al.
Docket No. R.305061-1
Preliminary Amdt.

chamber (38) and the second hydraulic chamber (39) and second recesses (70), the first recesses (63) and second recesses (70) being a slide seal (69).